Rubber Track Loader

Operation and Maintenance Manual

PT-30

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WARNING

Read and understand this manual prior to operating, inspecting, or attempting to maintain the Rubber Track Loader. Performing any of these tasks incorrectly can lead to machine damage, personal injury or even death.

LIMITED WARRANTY

The warranty herein set forth applies solely to the ASV Rubber Track Loaders manufactured by ASV, Inc. and is in lieu of all other warranties, expressed or implied. No person, agent, or dealer is authorized or empowered to give any other warranty or to assume other liability on behalf of ASV, Inc. Warranty of ASV Rubber Track Loaders is extended to the original purchaser, however, the balance of the unused warranty may be transferred to a second party.

ASV Inc. warrants only the products it manufactures or sells and does not warrant that other products will function properly or will not cause damage when used on an Rubber Track Loader. ASV does not assume liability for indirect, incidental or consequential damages.

ASV will repair or replace, free of charge to the holder of the warranty, any parts defective in material or workmanship under normal use and service and reasonable labor charges. Warranty work must be performed by an authorized ASV dealer or agent. The owner is responsible for getting the machine to that authorized ASV dealer or agent. ASV will not reimburse transportation, rental or inconvenience costs. ASV reserves the right to inspect the part prior to any decision involving a warranty claim. In no case shall ASV grant a remedy that exceeds the purchase price of the component or part.

The warranty validation form should be completed at the time of purchase by the dealer and customer. This form should be sent to ASV Inc. as soon as possible to prevent any delays in warranty claims.

The warranty periods are as follows:

1. For Rubber Track Loaders purchased by a retail customer: One year from date of purchase, with no hour limit.
2. Ninety days from date of sale on dealer-installed parts and accessories.
3. Machines purchased for rental: Six months from date of purchase, with no hour limit.
4. Engine: warranty for the Perkins diesel engines is separate from ASV Inc's warranty and is described in the engine warranty information.
5. Original rubber tracks are covered by a warranty period of 24 months or 1,000 operating hours, whichever occurs first, starting from date of delivery to the first user; tracks are prorated after the first 300 hours.

The following will VOID the warranty:

a. Failure to perform proper maintenance, service, or operating procedures as recommended in the Operators Manual.
b. Repair by anyone other than an authorized ASV dealer or agent.
c. Use of improper hydraulic fluid.
d. Misuse, abuse, neglect, or improper adjustment, accident, or improper application.
e. Any modification or removal of parts, unless authorized by ASV, Inc.
f. Removal or mutilation of the Product Identification Number (PIN).
g. Exceeding the G.V.W. of the machine.

No other warranty or guarantee of any kind is made by ASV, Inc. expressed or implied, statutory, by operation or law, or otherwise, including merchantability and fitness for a particular purpose.

Thank you for purchasing an ASV Rubber Track Loader. With this machine, you will be able to perform tasks faster and more efficiently than with any other machine its size.

The PT-30 is a rugged and agile machine capable of working on a variety of challenging terrains. It is designed to be very safe, but safe operation also requires caution and attentiveness on the part of the operator.

There are many hazards that can be encountered during operation of an off highway utility vehicle such as the PT-30. With this in mind, it is the responsibility of each operator to read and fully understand this manual before attempting to operate the machine. Machine damage, bodily injury, or even death may result if the procedures and precautions described in this manual are not followed closely.

At the time of publication, all information, photographs, and illustrations are technically correct.

Machine Orientation

Terms like **front**, **rear**, **left**, and **right** are used throughout this manual to describe portions of the machine. They are to be understood from the perspective of an operator seated inside the cab.

WARNING

This manual contains the words **Warning**, **Caution** and **Note** to emphasize important information. The word **WARNING** identifies personal safety related information. The word **CAUTION** identifies unsafe practices that may result in machine damage. The word **Note:** identifies supplementary information which requires special attention.

MACHINE SPECIFICATIONS

General Dimensions — PT-30

Height to top of ROPS:	71 in./1803 mm
Ground clearance:	10 in./254 mm
Max. lift height, at hinge pin:	80.25 in./2038 mm
Length of undercarriage:	68.5 in./1740 mm
Machine length, w/out bucket:	91 in./2311 mm
Machine length, with bucket:	112 in./2844 mm
Machine width:	46.5 in./1181 mm

Track Specifications

Track width:	11 in./280 mm
Length of track on ground:	55 in./1397 mm

Machine Weight

Weight without bucket (shipping):	2,935 lb/1331 kg
Ground pressure:	2.5 psi/17 kPa
Ground contact area:	1,183 $in.^2$/.76 m^2

Specifications are subject to change without notice.

SAE J818 standards define operating capacities of rubber-tired skid steers (50% tipping load) and tracked loaders (35% tipping load). There are no standards defining the operating capacity of machines equipped with a suspended undercarriage or machines with rubber tracks.

Engine — PT-30

Model:	Perkins 403C-15
Type:	3-cylinder diesel
Displacement:	1.5 liter
Gross HP @ 2800 rpm:	31.5 hp/23.5 kW
Torque (peak):	64.39 lb/ft. / 87.3 Nm

Operating Specifications

Operating capacities:	
35% tip load:	560 lb/254 kg
50% tip load:	800 lb/363 kg
Travel speed max.:	6 mph/9.7 kph

Auxiliary Hydraulic Pump

Flow, max.:	10 gpm/37.85 Lpm
Pressure:	3,000 psi/20 684 kPa

Service Refill Capacities

Fuel tank:	10 gal./37.85 L
Hydraulic tank*:	8 gal./30 L
Engine coolant*:	1.5 gal./5.68 L
Engine oil, including filter*:	1.6 gal./6.06 L

** When replacing or replenishing these lubricants/fluids, it is recommended that you specify genuine ASV products from your ASV Dealer.*

Product ID Number

The machine PIN is located on the left side of the firewall, next to the seat (shown above). Always provide the PIN when contacting the dealer about parts, service, warranty or accessories. Warranty claims will not be processed unless the PIN number is provided.

2040-121

Operating Guidelines

1. Warm engine prior to operating the machine.
2. Carry loads low. Load, unload and turn on level ground.
3. On inclines, travel with the heaviest end of the machine facing uphill.
4. Passengers are not permitted in or on the machine at any time.
5. Never use an attachment as a work platform.

Failure to comply with these instructions may result in machine damage, injury, or death.

! DANGER !
KEEP YOUR BODY INSIDE OPERATOR STATION WHILE OPERATING LOADER
NEVER WORK WITH YOUR ARMS, FEET OR LEGS BEYOND OPERATOR STATION
0310-169
FAILURE TO FOLLOW INSTRUCTIONS OR HEED WARNINGS COULD RESULT IN SERIOUS INJURY OR DEATH

! DANGER !
KEEP OUT OF THIS AREA
LOADER LIFT ARM MUST BE RESTING ON LOADER STOPS WHEN WORKING UNDER RAISED LIFT ARM
0310-139
FAILURE TO FOLLOW INSTRUCTIONS OR HEED WARNINGS COULD RESULT IN DEATH OR SERIOUS INJURY

! WARNING !
MOUNTING AND DISMOUNTING
MAINTAIN 3-POINT CONTACT
(2 FEET AND 1 HAND OR 1 FOOT AND 2 HANDS)
WITH STEPS AND HAND HOLDS
WHEN LEAVING LOADER:
1. PARK MACHINE ON LEVEL GROUND
2. LOWER WORK TOOL TO GROUND
3. STOP ENGINE AND REMOVE IGNITION KEY
4. REMOVE SEAT BELT
PARKING BRAKE IS APPLIED AUTOMATICALLY
0310-122
FAILURE TO FOLLOW INSTRUCTIONS OR HEED WARNINGS COULD RESULT IN INJURY OR DEATH

! WARNING !
LOADER LIFT ARM BRACE MUST BE IN PLACE WHEN WORKING UNDER LIFT ARMS
TO ENGAGE:
1. REMOVE WORK TOOL, PARK MACHINE ON LEVEL GROUND, LOWER LIFT ARMS.
2. RELEASE PIN THAT SECURES BRACE TO FENDER.
3. WRAP SPRING AROUND CYLINDER AND ATTACH TO OTHER SIDE OF BRACE.
4. RAISE LIFT ARMS UNTIL BRACE RESTS ON CYLINDER ROD.
5. SLOWLY LOWER LIFT ARMS UNTIL BRACE STOPS MOVEMENT.
6. SHUT OFF ENGINE AND EXIT MACHINE.
TO DISENGAGE:
1. REMOVE SPRING FROM CYLINDER.
2. RAISE LIFT ARMS UNTIL BRACE FALLS AWAY FROM CYLINDER ROD.
3. LOWER LIFT ARMS ALL THE WAY DOWN.
4. SHUT OFF ENGINE AND EXIT MACHINE.
5. REATTACH BRACE TO FENDER.
0304-313
FAILURE TO FOLLOW INSTRUCTIONS OR HEED WARNINGS COULD RESULT IN INJURY OR DEATH

Fire Prevention

The PT-30 has components that operate at high temperatures. The main heat sources are the engine and the exhaust system. The electrical system, if damaged or improperly maintained, can also be a source of heat and sparks. Attachments (brush-cutters, mowers etc.) can generate debris that can cause a fire if improperly maintained.

Flammable debris (leaves, straw, brush cutting debris, etc.) must be removed from these high temperature areas regularly. If flammable debris is allowed to accumulate, a fire may result posing a risk to the operator and the machine. A fire can cause machine damage, severe injury, or even death. Inspect for and remove flammable debris often to avoid a fire.

Listed are a set of precautionary tasks that should be performed daily or more often as needed. Repair or replace worn/damaged components as required to ensure safe operation.

- With the engine off and cool, clean flammable debris from engine compartment, exhaust system, attachments and other areas where there may be hot or rotating parts.
- Check battery, fuse box, electrical wiring and connections for damage or looseness.
- Check fuel lines and hoses for leaks or damage. Never allow open flame near fuel or fuel system components.
- Check hydraulic lines, hoses and fittings for damage or leaking fluid. Never use bare hands to check for leaks. Pressurized fluid can penetrate skin and cause injury or even death.

⚠ WARNING

- Do not use ether or any other aerosol type starting fluid to start the engine.
- Always stop the engine and allow the machine to cool before adding fuel. No smoking.

Operating Capacity

The operating capacity is a percentage of the machine's tipping load. Tipping load refers to the amount of weight required to tip the machine forward when applied to the center of gravity of the standard dirt bucket.

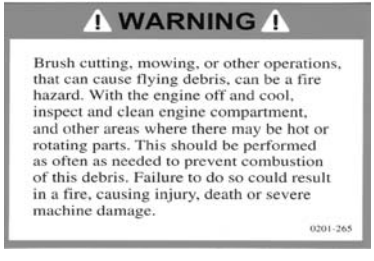
This rating is calculated with the machine on level ground and the bucket attachment installed, curled and raised until at its furthest point from the machine in the lift arm travel path.

The Rated Operating Capacity is then calculated as 35% of the tipping load for traditional track loaders and 50% of the tipping load for wheeled skid steer loaders. ASV publishes both figures for reference and comparison.

Note: *SAE J818 standards define operating capacities of rubber-tired skid steers (50% tipping load) and tracked loaders (35% tipping load). There are no standards defining the operating capacity of machines equipped with a suspended undercarriage or machines with rubber tracks.*

Gross Vehicle Weight

The GVW (Gross Vehicle Weight) of the PT-30 should not exceed 4,500 lbs. These weights do not include operator, but do include any accessories, attachments or material being carried. Exceeding the GVW will void the warranty (see page 2).


! WARNING !
Brush cutting, mowing, or other operations, that can cause flying debris, can be a fire hazard. With the engine off and cool, inspect and clean engine compartment, and other areas where there may be hot or rotating parts. This should be performed as often as needed to prevent combustion of this debris. Failure to do so could result in a fire, causing injury, death or severe machine damage.
0201-265

! WARNING !
0304-306
CARRY LOAD LOW.
DO NOT EXCEED RATED OPERATING CAPACITY.
LOAD, UNLOAD, TURN ON LEVEL GROUND.
TRAVEL UP AND DOWN HILL WITH HEAVIEST END OF LOADER UPHILL.
FAILURE TO FOLLOW INSTRUCTIONS OR HEED WARNINGS COULD RESULT IN INJURY OR DEATH

Loader and Drive Controls

The PT-30 has two hydraulic pilot joystick controls. These two joysticks are used to control machine speed, direction, lift arms and bucket or attachment. Joystick A is used to control the lift arms, the bucket and float function. To engage the float position move the joystick all the way forward with a quick motion, the joystick will then be held in detent. To disengage, quickly pull back. Joystick B controls direction and speed of the machine.

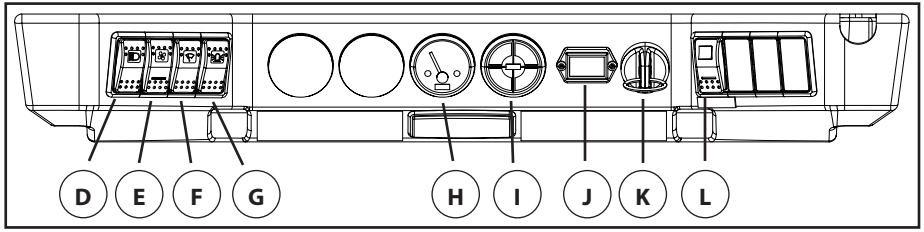
Control Options

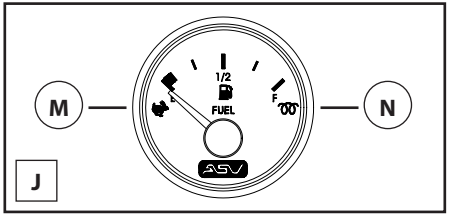
PT-30 machines are available with a "Case type" control configuration. This control option uses similar joysticks, but with a different control pattern to direct machine function. On these machines, joystick A controls the right track as well as bucket curl and dump functions. Joystick B controls the left track, lift arm up/down functions, and float position. The float position with this configuration does not have a detent position, and must be manually held in place to activate float function.

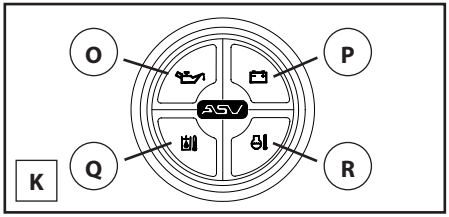
Throttle

The throttle C, controls engine rpm. When performing delicate work that requires precise movements, use a lower engine rpm. When more speed, horsepower or flow is required, use a higher engine rpm.

- To Increase RPM, move the lever (C) toward the front of the machine.
- To decrease RPM, move the lever (C) toward the rear of the machine.







Dash Panel

There are many switches and instruments involved in the operation of PT machines. Learn the location and function of these items prior to operation.

Switch Panels

D - Lights, front and rear
E - Heater Fan (optional)
F - Front wiper (optional)
G - Beacon (optional)
K - Ignition, glow plug (pre-heat)
L - Auxiliary Hydraulics

Instruments

H -Fuel Level Gauge
I - Warning Indicators (4-in-one)
J - Hour Meter
M - (not used)
N - Glow Plug Operation Light
O - Oil Pressure Warning Light
P - Battery Voltage Warning Light
Q - Hydraulic Oil Temp. Warning Light
R - Engine Temp. Warning Light

If the battery voltage warning light (P) illuminates, drive the machine to a suitable location and shut the engine off. Diagnose the problem and make needed repairs before continuing to operate.

The glow plug operation light (N) will illuminate only when the key switch is turned to engine pre-heat, showing normal operation.

CAUTION

Should the engine temperature, oil pressure, or hydraulic oil temperature warning lights illuminate during normal operation, shut the machine down immediately. Diagnose the problem and make needed repairs before continuing to operate.

Pre-Start Checklist

Before operating the machine, perform a pre-operation safety check. Inspect the machine for any items that may affect safe operation.

Check to make sure:

1. Engine compartment, chassis and coolers are clean and free of debris.
2. Windows and lights are clean and unobstructed.
3. Tracks are in good condition and are properly tensioned.
4. Fluids are filled to proper levels.
5. Accessory belts are in good condition and properly tensioned.
6. Hyd. Hoses and fittings are in good condition. (no visible signs of wear)
7. Battery cables are in good condition and properly fastened.
8. Joysticks and hyd. auxiliary switch are in their neutral positions.

Starting Procedure

Before starting the engine, perform the pre-start checklist then proceed with the following procedure:

1. Enter machine with lift arms all the way down. Maintain three points of contact with the machine (photo A).
2. Fasten seat belt, and lower lap bar into position.
3. Starting with the throttle in the SLOW position, push the throttle 1/3 the way open.
4. Turn the ignition key to the left for 6 seconds to “pre-heat” the engine. While pre-heating, the glow plug operation light will illuminate.
5. Turn the ignition key to the right to start the engine.

6. Run the engine at low idle for 3 to 5 minutes to warm up the engine.
7. Set throttle to desired rpm.

Note: The parking brake is automatically engaged when the engine is turned off, the operator is not in the seat or the lap bar is raised.

WARNING

Entering or exiting the vehicle under raised lift arms could cause serious injury or death. Never allow anyone to be underneath raised, unsecured lift arms (photo B).

⚠ WARNING

Failure to wear the seat belt could lead to serious injury or death.

⚠ CAUTION

Do not crank the engine for more than 20 seconds. Allow the starter to cool for 2 minutes before cranking again.

⚠ WARNING

Do not use aerosol type starting aids such as ether. Such use could result in an explosion and personal injury.

Moving Dirt

Certain techniques can be used to become more efficient when moving dirt with a bucket. The following instructions will make the machine more productive while preventing undue stress on the machine's components.

The lift arms are designed to rest against the frame while leveling or digging.

When using the lift arms in this manner (photo C) performance will be increased and stress will be reduced:

1. Lower the lift arms all the way down until they rest against the frame of the machine.
2. Tilt the bucket forward until the cutting edge engages the ground.
3. While moving forward make slight adjustments to the bucket tilt cylinders to vary the depth you are dig ging.

Never tilt the bucket all the way forward to use the bucket as a dozer blade (photo A). Damage to the bucket and bucket cylinders can result.

Never back drag as shown in photo B as damage to the machine, especially the bucket and tilt cylinders, can result.

Operating on turf

ASV rubber track vehicles are designed to tread lightly and produce minimal ground disturbance while operating on finished surfaces like turf, however, care should be taken while operating on these surfaces to prevent blemishes from occurring.

Turning poses the greatest risk of surface disturbance during operation.

Moving in a straight line across turf will cause little or no disturbance, whereas tight cornering will most likely cause blemishes.

While working on turf, make gradual turns. (see item C) If space is limited, turn gradually by moving back and forth until facing the desired direction. (see item D)

Operation on Inclines

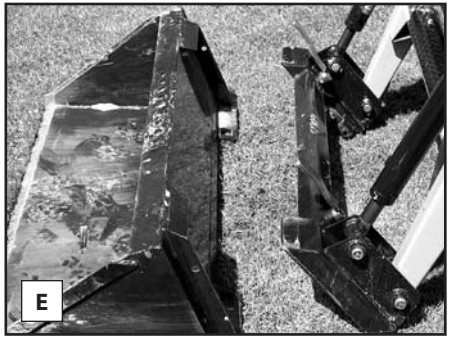
ASV Rubber Track Loaders are very stable on inclines. Machine weight is distributed evenly throughout the chassis and the suspended undercarriage track system provides excellent traction and floatation on nearly all surfaces.

Even with these capabilities, caution should always be exercised while operating the machine on an incline. Never operate the PT-30 on an incline in excess of 10°. Do not make sudden changes in direction, move slowly, and always carry loads low to maximize machine stability.

When turning on an incline, back down the hill while slowly turning until the machine is facing the desired direction. Then proceed forward.

WARNING

Carry load low. Do not exceed rated operating capacity. Load, unload, turn on level ground. Travel on inclines with heaviest end of machine uphill. Failure to comply with these instructions may result in machine damage, injury or even death.

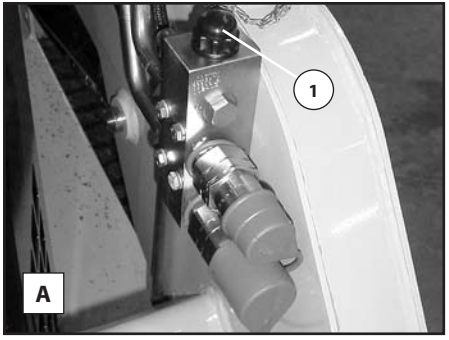


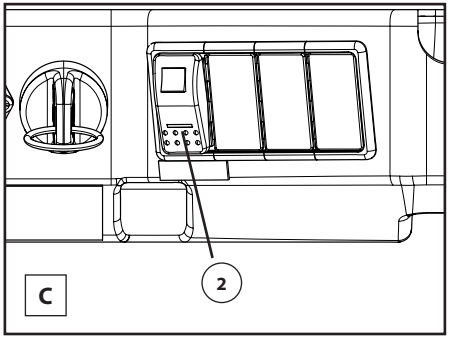
Fastening Attachments

With both levers on the quick-attach interface in the “up” position, drive towards the attachment with the quick-attach tipped forward (photo E). Hook the top edges of the quick attach under the upper lip of the attachment interface. Raise the lift arms up slightly and then curl the quick-attach until it is fully mated with the attachment. Turn the engine off and exit the machine. Secure the attachment by pushing the levers downward (photo F).

To confirm engagement:

1. Raise the lift arms slightly.
2. Tilt the attachment downward.
3. Visually verify that the locking pins can be seen through the bottom of the mating interface.





Auxiliary Hydraulics

The PT-30 models come equipped with an auxiliary hydraulic system designed to run hydraulic attachments.

To operate, connect the attachment to the two quick couplers (photo A). To release any pressure in the system, press the button labeled 1 in photo A.

The auxiliary hydraulics can be engaged intermittently or continuously depending on the requirements of the attachment being utilized.

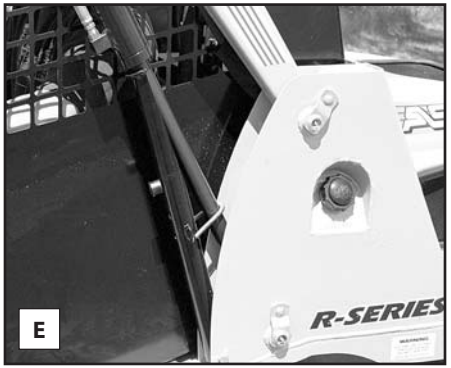
To engage the hydraulic flow intermittently, activate the toggle-type switch on the top of the right joystick, photo B. Intermittent function is ideal for attachments such as grapple buckets and dozer blades.

To engage the hydraulic flow continuously, activate the 3-position switch on the dash panel, labeled 2 in photo C. Continuous function is ideal for attachments such as snow blowers, brush cutters or backhoes.

Note: Moving either switch from one position to the other has the effect of reversing flow through the auxiliary hydraulic circuit.

Note: The continuous flow switch must be in its neutral position in order to start the engine.

Note: The continuous flow auxiliary switch has a small orange locking switch that must be disengaged before the switch will activate



Lift Arm Brace

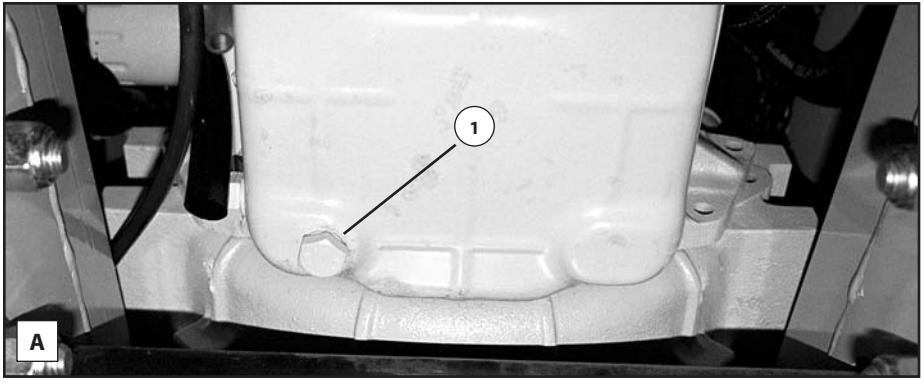
When the lift arms must be left in the raised position, the lift arm brace must be engaged.

To engage:

1. Lower the lift arms. Remove any attachments and park the machine on level ground.
2. Remove the pin that secures the brace to the fender.
3. Wrap the spring around the cylinder and attach it to the other side of the brace (photo D).
4. Raise the lift arms until the brace contacts the cylinder rod (photo E).
5. Slowly lower lift arms until the lift arms come to rest (stop) on the brace.
6. Shut the engine off and exit the machine.

To disengage:

1. Remove the spring from the cylinder.
2. Raise the lift arms until the brace falls away from the cylinder rod.
3. Lower lift arms.
4. Turn the engine off.
5. It is now safe to exit the machine and re-attach the brace to fender.



Engine Oil

The normal oil change interval is every 500 service hours or one year, which ever comes first. Engines which are operated under harsh conditions should have the oil changed every 250 service hours or every 6 months, which ever comes first. Harsh conditions include: operation in high temperatures, continuous high load applications, and abnormally dusty/dirty conditions.

To change engine oil:

1. Run engine for a few minutes to warm the engine oil.
2. Remove the drain plug (item 1, photo A) from the oil pan.
3. Drain oil into suitable container.
4. Remove engine oil filter, **make sure gasket is also removed**.
5. Apply fresh oil to the new filter gasket surface and install new filter.
6. Tighten filter to specifications on filter label or box.
7. Refill engine to capacity with oil as specified.

Engine Oil Specifications

Due to the significant variations in the quality and in the performance of commercially available oils, ASV makes the following recommendations:

- ASV 10W-30 **Heavy Duty Engine Oil**. or

If ASV products are not available for some reason, you may use a quality engine oil substitution meeting the following minimum specification:

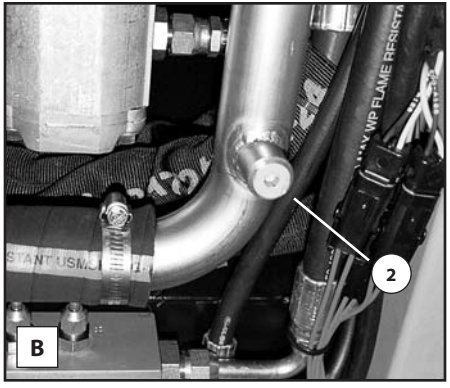
- API CH-4 multigrade oil

Hydraulic Fluid and Filter

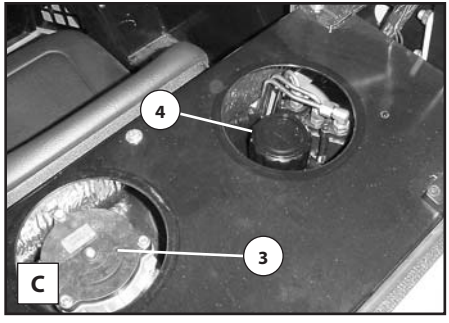
The hydraulic fluid should be changed every 500 service hours, and the hydraulic filter should be changed every 250 hours. Hydrostatic components require extremely clean oil in order to have a long service life. Extreme caution must be taken when changing the hydraulic fluid. Before beginning the procedure, make sure the machine is in a clean working environment. Precautions should be taken to prevent any debris from entering the hydrostatic system.

To change hydraulic fluid and filter:

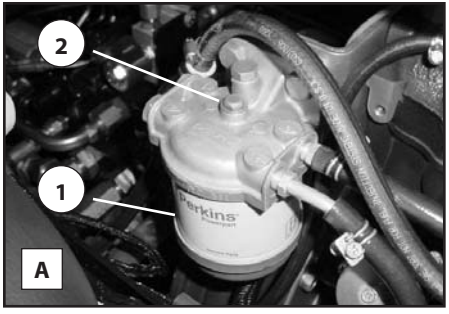
1. Locate and remove the hydraulic fluid drain plug (item 2) through the drain hole in the belly pan. Drain the used fluid into a suitable container.
2. Locate the hydraulic filter behind the operator enclosure, under the left rubber plug (item 3).
3. Clean around the filter head, then remove the three bolts securing the cover and remove it.



4. Remove the old filter from the housing, replace it with a new one, then reinstall the cover and rubber plug.
5. Reinstall the drain plug, then refill the hydraulic reservoir (item 4) with **ASV Premium All Season MV Hydraulic Oil**, or an approved substitute such as Chevron Rykon MV. Observe the hydraulic fluid level sight gauge (5) located on the back of the hydraulic reservoir to ensure that the level is correct (photo D).



6. Once full, start the engine and operate all hydraulic circuits to work any trapped air out of the system, then check the fluid level. If low, add fluid as necessary until full.



Fuel Filter Change

The fuel filter should be changed every 500 service hours, or as needed. A plugged fuel filter can cause loss of engine power, rough running, or no start. To change the filter:

1. Clean the outside of the filter (1) thoroughly (shown above).
2. Remove bolt (2) on the top of the filter assembly, then remove filter.
3. Pour diesel fuel into new filter until it is full.
4. Reverse step 2 to install the new fuel filter into the machine.

Item	Frequency	Lubricant	Capacity
Hydraulic fluid	500 hours	ASV Premium **MV Hydraulic Oil** or similar like Amoco Rykon MV	8 gal./30 L
Hydraulic filter	250 hours		
Engine oil	500 hours	See p. 16	PT-30 - 1.6 gal./6.06 L
Engine Oil filter	500 hours		
Fuel filter	500 hours		
Coolant additive	Test at 250 hours		
Coolant change	1,000 hours or 2 years		PT-30 - 1.5 gal
Primary air filter	Check daily, clean or replace as needed (see page 22)		
Secondary air filter	Replace after every 3 cleanings of primary filter		
All grease fittings	Daily (prior to operation) **ASV MP Lithium Grease**		
Track tension	As needed (see page 20)		

Note: When adding or replacing engine coolant, use **ASV Long-Life Anti-Freeze/Coolant** or similar with proper SCA (supplemental cooling additive).

Fuel Specifications

In North America, diesel fuel, distilled from crude oil, that is identified as No. 1-D or No. 2-D in "ASTM D975" generally meet the proper specifications.

Water Separator

The water separator (photo B, located on the left side of the hyd. reservoir) removes water from the fuel supply as the engine runs. Drain the water separator daily to maintain proper function.

To drain the water separator:

1. Loosen the twist valve on the bottom of the separator.
2. Retighten the valve once all of the water has been drained from the catch bowl.

Undercarriages

The undercarriage assemblies typically operate in harsh working conditions. They work in mud, gravel, debris and various other abrasive materials during operation. ASV recommends a daily inspection of the undercarriage assemblies and cleaning if necessary.

Materials that are particularly sticky or abrasive like clay, mud, or gravel should be cleaned from the undercarriages often to minimize component wear. A pressure washer works well for cleaning materials from the undercarriages. At times when a pressure washer is not available, use a bar, shovel or similar device to remove foreign materials.

When cleaning, pay particular attention to the drive motors/sprockets and the front and rear wheels where debris is likely to accumulate. If working in scrap or debris, inspect the undercarriages more often and remove foreign objects that may wrap around or lodge themselves between components causing premature wear and damage.

Operation on sand, turf, or other finished surfaces may require less frequent cleaning, but daily inspection is still advised.

Track Tension

Proper track tension is very important for optimum performance and maximum track life. Operating with tracks that are too loose can cause them to misfeed, possibly causing damage. During the first 50 hours of operation, the tracks will "break-in", and may require adjustment.

To check for proper track adjustment:

1. Drive the machine forward 5 feet to remove slack from the lower and rear portions of the track.
2. Lay a straight edge along the top of the track, across the sprocket and the front idler wheel (photo A).
3. Using a rope or wire, put 50 lbs. of down force on the track at the mid point between the sprocket and idler.

4. Using a ruler or tape, measure the distance between the straight edge and track (photo B). The track should not deflect more than .75" between the top of the track and the straight edge.
5. If the track does deflect more than .75", tighten the track until within specification.

To adjust the track tension:

1. Locate jam nut on track tensioner and clean the threads thoroughly before beginning procedure (photo C).
2. Using a wrench, loosen the jam nut on the track tensioner.
3. After the jam nut is loosened turn the tensioner until the track tension is within specification (photo D).

4. Turn the tensioner the opposite direction to loosen the track.
5. Once proper tension is achieved, retighten the jam nut on the tensioner. If the track tensioner is stiff, it may be helpful to slide a pipe over the end of the wrench to increase leverage while adjusting tension.

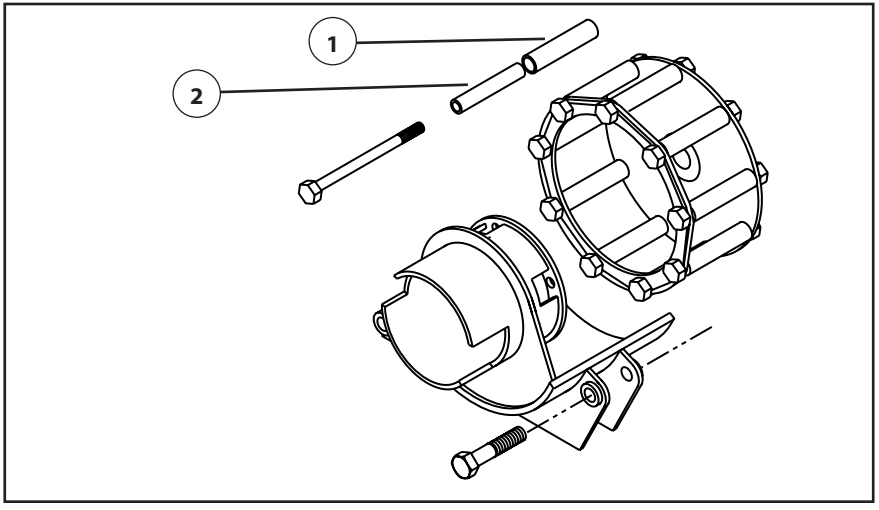
Drive Sprocket Rollers

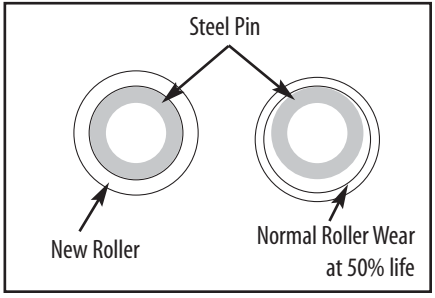
Rubber Track Loaders use rollers on each drive tooth of the two drive sprockets. These rollers help minimize friction between lugs on the track and the sprocket. Sprocket rollers should be treated as wear items that are inspected regularly and replaced as needed.

The rollers (1) rotate on steel pins (2), limiting wear to the inside of the rollers. As they wear, the rollers become thinner, but will continue to function and perform as long as they are rotating.

Visually inspect rollers every 50 hours and replace any that show signs of cracking or wear-through.

In order to replace sprocket rollers, the drive sprocket must be removed from the undercarriage. Track removal is recommended and makes the replacement process more efficient, but is not required. For specific instruction regarding roller replacement, consult your machine specific service manual.





WARNING

Make sure the machine is turned off, the key removed, and the battery disconnected before performing this procedure.

Air Cleaner

The air cleaner is one of the most important maintenance items on the machine. Regular inspection and replacement is necessary to ensure proper performance and to prolong engine life. **Inspect the air cleaner elements daily.** If damaged or heavily soiled, clean or replace the elements.

1. Open the hood, release the latches on either side of the air cleaner, then remove the cover.

2. Remove the primary element (A). The primary element can be cleaned and reused up to five times, but should be changed at least once a year.

3. Remove the secondary element (B). The secondary element is not serviceable or washable. The secondary element should be replaced every three cleanings of the primary element.

To clean the primary element:

1. Remove loose dirt from the element with compressed air or water hose.
   Compressed air: 100 PSI max. 1/8" diameter nozzle at least 2" away from the filter element.
   Water: 40 PSI max. without nozzle.

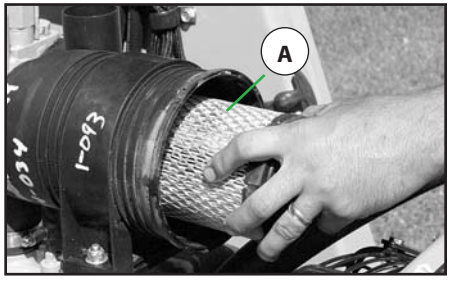
2. Soak the filter element in a non sudsing detergent solution for at least 15 minutes moving it gently through the solution to further clean the element. (Never soak for more than 24 hours.)

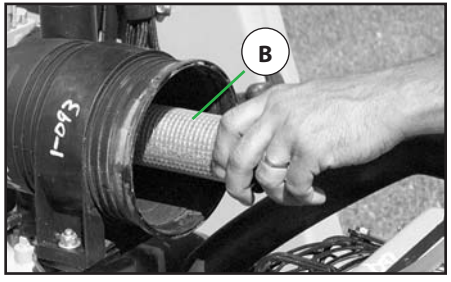
3. Rinse the filter thoroughly with a gentle stream of water to remove all dirt and remaining detergent.

4. **Allow the filter to dry completely** before reinstalling it into the machine.

CAUTION

Do not use any heat source other than warm air at less than 160° F to dry the filter.



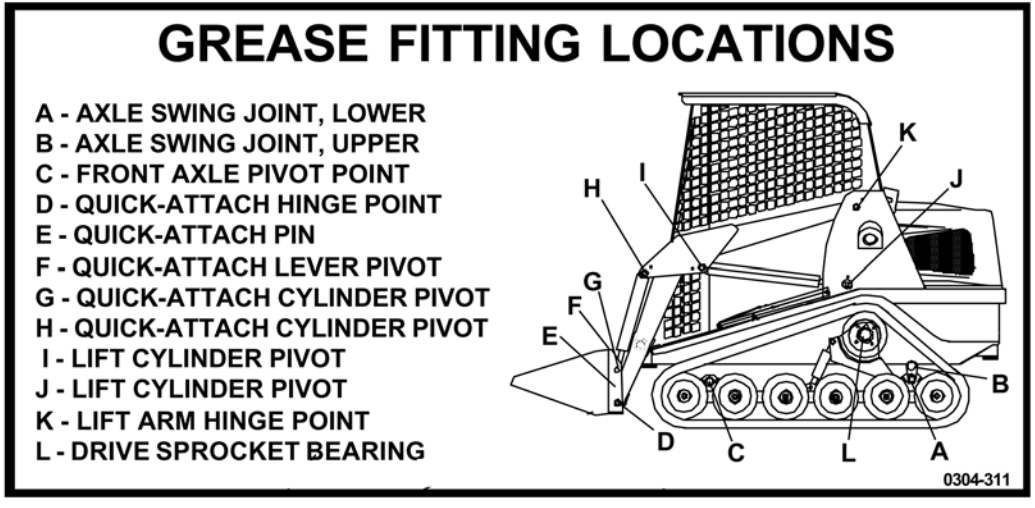


CAUTION

During the engine warranty period, do not clean the filter elements. Instead, replace the filter elements when soiled or damaged to comply with engine warranty requirements.

Grease Fittings

The illustration below shows the location of grease fittings found on the left side of the machine. An identical set of fittings can be found on the right side of the machine. Lubricate all grease fittings daily, prior to operation.



Radiator/oil cooler cleaning

The radiator and oil cooler must be clean to ensure proper operation. Engine and hydraulic system overheating, damage and even failure can result if the radiator/oil cooler is not kept clean. A pressure washer or compressed air nozzle work well to blow debris clear of the fins in the oil cooler and radiator.

Note: If hydraulic oil or engine coolant temperature lights illuminate during operation, increase cleaning intervals.

Note: In brush cutting applications check and clean the coolers and chassis often to avoid overheating and prevent fires.

To clean radiator and oil cooler:

1. Make sure the engine is **off, and cool** during radiator/oil cooler cleaning procedure.
2. Thoroughly clean radiator/oil cooler prior to operation. Direct spray forward as shown. (photo A,B)

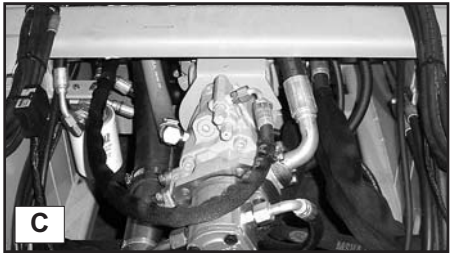
Note: Make sure water nozzle is at least 12” (8” for air) from the cooler and that the spray is directed straight through the cooler or the cooling fins may be damaged (bent over) which will decrease cooling performance.

Chassis and engine cleaning

Periodic cleaning of the chassis area beneath the cab and engine compartment is also necessary to maintain safe operation. Clean as necessary. (photo C)

To clean the chassis/engine:

1. Remove the belly pans on the underside of the machine.
2. Raise the hood at the rear of the machine.
3. Pressure wash any debris from the engine compartment and chassis area out through the lower opening.
4. Re-install the belly pans and close the hood to complete the cleaning procedure.



Fuse Panel

The electrical systems in PT machines are equipped with fuses that help to protect the electrical components from damage. They are found in the fuse panel which is located on the left side of the engine compartment.

In the event of an electrical malfunction, check the fuse panel. Remove the fuse related to the component that is not working properly and inspect it. If it appears damaged in any way, replace it.

CAUTION

Replace fuses with correct amperage fuse only. A fuse with a lower amp rating will fail more easily whereas one of a higher rating may cause electrical system damage.

Fluids and Lubricants

When replacing or replenishing the fluids and lubricants in your PT-30 Rubber Track Loader, you can specify ASV fluids and lubricants. This ensures that new fluids and lubricants match those originally installed when your machine left the ASV factory. ASV fluids and lubricants were developed for, tested and approved by ASV to assure optimum life and performance in all ASV Rubber Track Equipment, when used as recommended.

The ASV fluid and lubricant product line includes:

- Heavy Duty Engine Oil, 10W30;
- Premium All Season MV Hydraulic Oil;
- Multi-Purpose EP Lithium Grease;
- Long-Life 50/50 Antifreeze/Coolant;
- Undercarriage Wheel Bearing Lubricant.

ASV fluids and lubricants are available through your ASV Dealer. If, for some reason, ASV products are not available to you, use an approved equivalent, as specified elsewhere in this manual.

SERVICE LOG

Hours	Service Performed	Notes

Hours	Service Performed	Notes

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ASVPT30 OM (9/07)
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